

THE DEPARTMENT OF ENERGY
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News Media Contact: (202) 586-4940

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President Obama Announces Funding for Breakthroughs in Natural Gas and Biofuels as Alternative Fuels for Vehicles

\$30 Million Will Fund Breakthrough Natural Gas Vehicles Technologies, \$14 Million to Support Development of Transportation Fuels from Algae

WASHINGTON, D.C. – Today, President Obama announced new funding to catalyze breakthrough technologies for two key alternative fuels – natural gas and biofuels – as part of his all-of-the-above energy strategy to reduce our reliance on foreign oil and provide American families new choices for vehicles that do not rely on conventional gasoline. Through its Advanced Research Projects Agency – Energy (ARPA-E), the Energy Department will make \$30 million available for a new research competition in the coming months that will engage our country’s brightest scientists, engineers and entrepreneurs to find ways to harness our abundant supplies of domestic natural gas for vehicles. The Department of Energy will also make \$14 million available to support research and development into biofuels from algae. These programs will spur American innovation and encourage scientific breakthroughs that will help diversify the nation’s energy portfolio, grow American companies, and develop alternative vehicle technologies that do not rely on oil.

President Obama announced the programs during a speech at the University of Miami in Miami, Florida, where he toured the school’s Industrial Assessment Center (IAC), an Energy Department program that teaches students how to become industrial energy efficiency experts as they help small- to mid-sized manufacturers cut energy costs.

“As President Obama made clear in his State of the Union address, in order to build a strong economy and reduce our dependence on foreign oil, we must invest in developing American energy sources like natural gas and biofuels,” said Energy Secretary Steven Chu. “Through the new programs announced today, we can help revolutionize the way Americans fuel their cars, saving money for families and businesses while building new industries here in the United States.”

Funding Breakthroughs in Natural Gas Vehicles

ARPA-E’s \$30 million funding announcement for natural gas breakthroughs build on President Obama’s call for a new era for American energy that benefits from the safe, responsible development of the near 100-year supply of American natural gas, which has the potential to support more than 600,000 U.S. jobs. Today’s natural gas vehicle technologies require tanks that can withstand high pressures, are cumbersome and either too large or too expensive to be suitable for passenger vehicles. ARPA-E’s projects under this new program, titled Methane Opportunities for Vehicular Energy - or “MOVE” - will focus on overcoming these barriers by

developing innovative, low-cost natural gas storage technologies and methods to lower pressure in vehicle tanks that will help enable the widespread adoption of natural gas vehicles.

Specifically, ARPA-E seeks to fund projects that will develop lightweight tanks for cars that can run on natural gas and fit into modern passenger vehicles. This approach includes developing affordable natural gas compressors that can efficiently fuel a natural gas vehicle at home. ARPA-E also seeks to fund projects that will develop absorbing materials that are able to hold gas, similar to how a sponge holds water. These materials could lower pressure in vehicle tanks that hold and release natural gas, making them safer and more affordable for American consumers.

President Obama launched ARPA-E in 2009 to seek out transformational, breakthrough technologies that are too risky for private-sector investment but have the potential to translate science into quantum leaps in energy technology, form the foundation for entirely new industries, and have large commercial impacts. Demonstrating the success ARPA-E has already seen, the program announced last year that eleven of its projects secured more than \$200 million in outside private capital investment after initial funding from its programs. Today's announcement begins ARPA-E's fifth round of funding. To date, ARPA-E has hosted four rounds of competitions and attracted over 5,000 applications from research teams, which has resulted in 180 groundbreaking projects worth over \$500 million. For more information and application requirements for the Funding Opportunity Announcement, please visit <https://arpa-e-foa.energy.gov/>.

Funding to Develop Homegrown Transportation Fuels from Algae

The Energy Department's \$14 million funding announcement to develop transportation fuels from algae builds on an Administration-wide commitment to biofuels research, development, and demonstration that includes support for the construction of commercial-scale, next-generation biorefineries. Part of the Department's sustained investment in biofuels technologies focuses on unlocking the potential for homegrown transportation fuels from algae, which have the potential to replace up to 17 percent of the United States' imported oil for transportation. In addition, algae feedstocks offer additional benefits, such as an ability to be grown in ponds near industrial facilities where algae can feed off the carbon emissions from power plants or digest nitrogen and phosphorous from municipal waste water. The Department is currently supporting more than 30 algae-based biofuels projects, representing \$85 million in total investments.

Through the new funding announcement, the Department will seek proposals from small businesses, universities, and national laboratories to modify existing facilities for long-term algae research and test new production processes that could lead to commercial biofuels made from algae. Specifically, the new projects will establish and operate research "test beds" for algal biofuels that can facilitate development, test new approaches to algae production, and discover innovative ways to minimize the water and nutrients needed to mass produce algae for commercial biofuels. These advanced research projects will aim to significantly improve the sustainability of algae-based biofuels and accelerate technological breakthroughs. These awards represent the first phase in a total \$30 million investment in algal biofuels in fiscal year 2012.

The competitively selected projects will receive up to \$14.3 million in fiscal year 2012 funds, with an additional \$6.7 million available in fiscal year 2014 funding, subject to Congressional

appropriations, for projects that meet rigorous performance criteria. Applications are due on April 18, 2012. For more information and application requirements for the Funding Opportunity Announcement, please visit the [Funding Opportunity Exchange website](#).

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